# (19) World Intellectual Property Organization International Bureau





## (43) International Publication Date 10 May 2001 (10.05.2001)

### **PCT**

# (10) International Publication Number WO 01/33615 A3

(51) International Patent Classification7:

101

- (21) International Application Number: PCT/US00/41787
- (22) International Filing Date:

1 November 2000 (01.11.2000)

(25) Filing Language:

English

H01L 21/00

(26) Publication Language:

English

(30) Priority Data:

60/163,121

2 November 1999 (02.11.1999) US

- (71) Applicant: TOKYO ELECTRON LIMITED [JP/JP]: Akasaka 5-chome, Minato-ku, Tokyo 107-8481 (JP).
- (72) Inventors: BIBERGER, Maximilian, A.; 737-6 Loma Verde Avenue, Palo Alto, CA 94303 (US). LAYMAN, Frederick, Paul: 433 Miwok Court, Fremont, CA 94539 (US). SUTTON, Thomas, Robert; 1790 Chevalier Drive, San Jose, CA 95124 (US).

- (74) Agents: HAVERSTOCK, Thomas, B. et al.; Haverstock & Owens LLP, Suite 420, 260 Sheridan Avenue, Palo Alto, CA 94306 (US).
- (81) Designated States (national): AE. AL. AM. AT. AU. AZ. BA. BB. BG. BR. BY. CA. CH. CN. CR. CU. CZ. DE. DK. DM. EE. ES. FI. GB. GD. GE. GH. GM. HR. HU. ID. IL. IN. IS. JP. KE. KG. KP. KR. KZ. LC. LK. LR. LS. LT. LU. LV. MA. MD. MG. MK. MN. MW. MX. NO. NZ. PL. PT. RO. RU. SD. SE. SG. SI. SK. SL. TJ. TM. TR. TT. TZ. UA. UG. UZ. VN. YU. ZA. ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW). Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM). European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR). OAP! patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

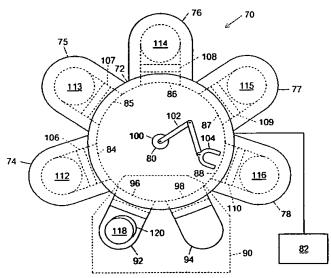
#### Published:

with international search report

(88) Date of publication of the international search report: 6 December 2001

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR SUPERCRITICAL PROCESSING OF MULTIPLE WORKPIECES



(57) Abstract: An apparatus for supercritical processing of multiple workpieces comprises a transfer module, first and second supercritical processing modules, and a robot. The transfer module includes an entrance. The first and second supercritical processing modules are coupled to the transfer module. The robot is preferably located with the transfer module. In operation, the robot transfers a first workpiece from the entrance of the transfer module to the first supercritical processing module. The robot then transfers a second workpiece from the entrance to the second supercritical processing module. After the workpieces have been processed, the solution to the first supercritical processing module. After the workpieces have been processed, the

O 01/33615 A

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## INTERNATIONAL SEARCH REPORT

Ir national Application No PCT/US 00/41787

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H01L21/00

According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) H01L IPC 7

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 91 12629 A (BOK) 22 August 1991 (1991-08-22)	1,7-11, 15, 17-21, 23-30,33
	abstract; figures 29-32 page 21, line 12-14 page 22, line 33 -page 23, line 11	21.22
Α		31,32
X	WO 99 18603 A (APPLIED KOMATSU TECHNOLOGY, INC.) 15 April 1999 (1999-04-15)	1-3,5,6, 9,12-15, 17-23, 25,27-33
	page 6, line 30 -page 7, line 3 page 8, line 23-30	:
	-/	

Further documents are listed in the continuation of box C.	Y Patent tamily members are tisted in annex.			
Special categories of cited documents :      A* document defining the general state of the art which is not considered to be of particular relevance.	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention			
<ul> <li>*E* earlier document but published on or after the international filling date</li> <li>*L* document which may throw doubts on priority claim(s) or</li> </ul>	<ul> <li>"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</li> <li>"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-</li> </ul>			
which is cited to establish the publication date of another citation or other special reason (as specified)				
*O* document referring to an oral disclosure, use, exhibition or other means  *P* document published prior to the international filing date but	ments, such combination being obvious to a person skilled in the art.			
later than the priority date claimed	'&' document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
12 July 2001	18/07/2001			
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer			

PC1/US UU/41/8/

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
-3-1		to balli Ho.
(	US 5 934 856 A (ASAKAWA ET AL.) 10 August 1999 (1999-08-10)	1-11,15, 17-21, 23, 25-30,
	abstract; figure 10 column 16, line 46 -column 17, line 46	32,33
A		31
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) -& JP 10 144757 A (DAINIPPON SCREEN MFG CO LTD), 29 May 1998 (1998-05-29) abstract	1,9-11, 15-23, 25-30,33
A	-& US 6 077 321 A (ADACHI ET AL.) 20 June 2000 (2000-06-20) figure 1	31,32
-		
i		
İ		
Ì		
1		
ļ		
İ		
ļ		
ĺ		
		1

## INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/US 00/41787

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9112629	A	22-08-1991	EP JP	0515488 A 6500427 T	02-12-1992 13-01-1994
WO 9918603	Α	15-04-1999	US EP	6235634 B 1027724 A	22-05-2001 16-08-2000
US 5934856	Α	10-08-1999	JP JP US	7335711 A 8046013 A 5769952 A	22-12-1995 16-02-1996 23-06-1998
JP 10144757	Α	29-05-1998	US	6077321 A	20-06-2000

Mary Jan San

THIS PAGE BLANK (USPTO)